Shock Absorber Rebuild Manual

Model

PODIUM X

FOX RACING SHOX
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TABLE OF CONTENTS

Disclaimer

FOX Racing Shox is not responsible for any damages to you or others arising from riding, transporting, or other use of your FOX-equipped vehicle. In the event that your shock breaks or malfunctions, FOX Racing Shox shall have no liability or obligation beyond the repair or replacement of your shock, pursuant to the terms outlined in the Service and Warranty provisions of this manual.

Consumer Safety

RIDING A MOTOR VEHICLE IS DANGEROUS AND CAN RESULT IN SERIOUS INJURY OR DEATH. RIDE RESPONISBLITY AT ALL TIMES.

- Maintain your vehicle and your suspension.
- Always wear a helmet, protective clothing and eye protection.
- Ride within your limits.
- Tread lightly.

Removal & Installation

The method for removing and installing your FOX Racing Shox is different for every vehicle. Refer to your vehicle's service manual for complete instructions.

Recommended Service Intervals

Your FOX Racing Shox will perform the best if serviced at regular intervals:

Every Ride	Wash and dry your vehicle and suspension.
Every 100 hours	Visually inspect shock seals.
Every 500 hours or Annually	Charge shock oil and seals.

Tools & Materials Required for Rebuild

1. Fox 5wt. Shock Fluid – 1 Qt. — Fox P/N 803-11-005
2. Fox IFP Depth Setting Tool — Fox P/N 803-00-255
3. Fox Seal Installation Bullet (5/8") — Fox P/N 398-00-094-A
4. Pin Spanner Wrench (3/16" Pins)
5. 3/32" Hex Key ("Allen Wrench")
6. 5/32" Hex Key ("Allen Wrench")
7. T15 Torx Wremch
8. Scribe or Dental Pick
9. ¼" Flat Blade Screwdriver
10. #2 Phillips Screwdriver
11. Standard Pliers
12. Small Needle Nose Pliers
13. ¾" Socket
14. Torque Wrench
15. Soft Faced/Rubber Mallet
16. Nitrogen Tank w/ Regulator
17. Cleaning Solvent
18. Vice w/ Soft Jaws
19. Tape Measure
20. Reservoir End Cap Extraction Tool

Rebuild Kit # 803-00-230

Qty 1:	002-02-000-B	Damp Piston Bearing
Qty 1:	029-00-029-A	Damp Piston O-ring
Qty 1:	002-00-000-A	IFP Bearing
Qty 1:	029-00-324-A	IFP O-ring
Qty 2:	029-03-222-A	Resi end cap & Bearing O-ring
Qty 1:	029-00-114-A	Seal head shaft O-ring
Qty 1:	036-01-005-A	Seal head shaft U-cup seal
Qty 1:	036-02-002-A	Seal head shaft wiper
Qty 1:	029-02-019	CD adjuster housing O-ring
Qty 1:	029-03-022-A	CD adjuster housing O-ring

REBUILD INSTRUCTIONS

Important notes:

- SAFETY FIRST - Always wear safety glasses and read directions completely BEFORE disassembling the shock.
- Cleanliness is critical, make sure your work area is clean and un-cluttered prior to starting work. Contamination of the shock will lead to premature wear and poor function of your shocks.
- **IMPORTANT:** When replacing a seal during a service, make sure that the new seal is the same size, shape, and material as the one you are replacing. In some cases, there may be two seals in the rebuild kit that look similar.

1. Measure the location of the preload ring and cross-over ring (note: some shocks with single spring will not have a cross over ring) relative to the body cap **(Figure 1, Figure 2)**. Record these measurements as well as the rebound and compression adjustment settings.

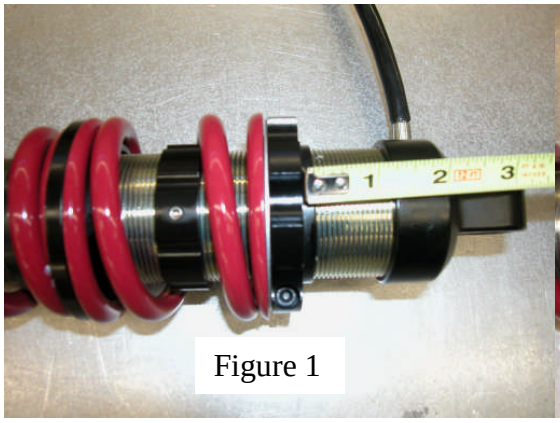


Figure 1

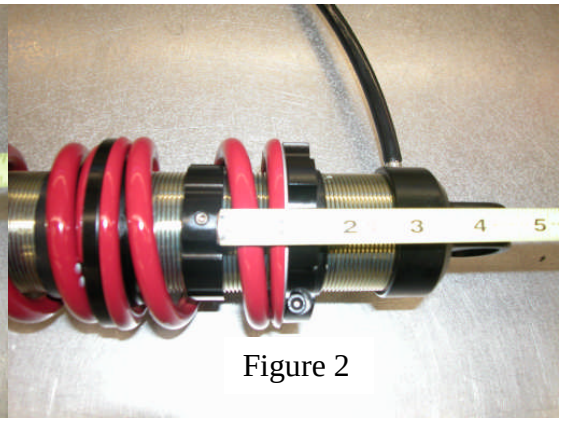


Figure 2

2. Using a 5mm allen wrench, loosen pinch bolt on preload ring and back it off until spring is loose on the body. Remove the lower spring retainer.
3. Remove the springs, spring coupler and stainless steel thrust washers (note: some shocks with single spring will not have tender spring or spring coupler).
4. Remove the eyelet reducers and o-rings from both ends of the shock.
5. Clean the entire shock assembly with soapy water. Try to remove as much dirt and grime as possible by scrubbing with a soft bristle brush. Never pressure wash your shock, as this can force water and debris inside which will damage the seals. Dry the shock assembly with compressed air, if available, or use clean towels.
6. Back the rebound adjustment screw all the way out (full soft). Back the compression adjustment knob all the way out (full soft).
7. Clamp the shock body securely in a vice, with the shaft side up. Be sure to use SOFT JAWS to prevent damage to the shock (alternately, a clean towel can be used in the vice jaws to protect the shock).
8. Using a 3/32" Hex Key, loosen the bearing cap set screw. Use pin spanner tool to unscrew the bearing cap, and slide the bearing cap up to the bottom-out bumper. **(Figure 3)**

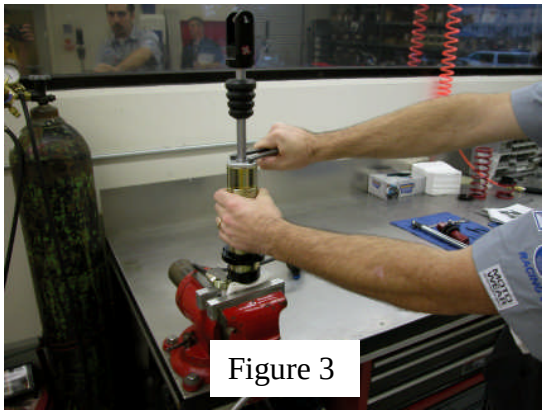


Figure 3

9. Remove the mushroom shaped cap from the end of the reservoir to expose Nitrogen Schrader valve. **(Figure 4)**

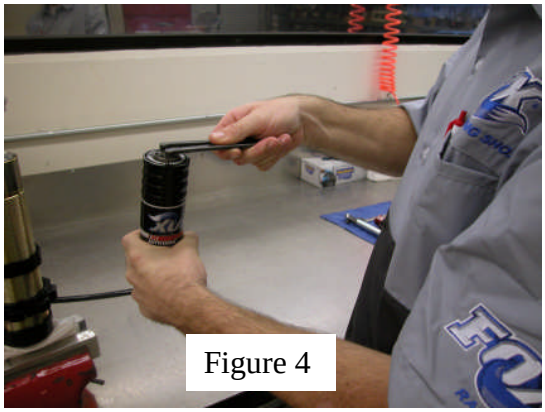


Figure 4

10. Using a blunt object, depress the air valve core to release pressure. **(Figure 5)**

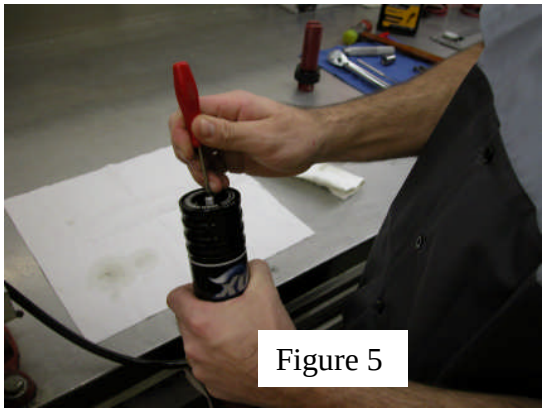


Figure 5

11. Depress the reservoir end cap to expose the wire-retaining ring. Use a scribe or dental pick to remove wire ring. Use extreme caution not to scratch the bore of the reservoir tube. A thin valve shim can also be used to remove the ring. **(Figure 6)**

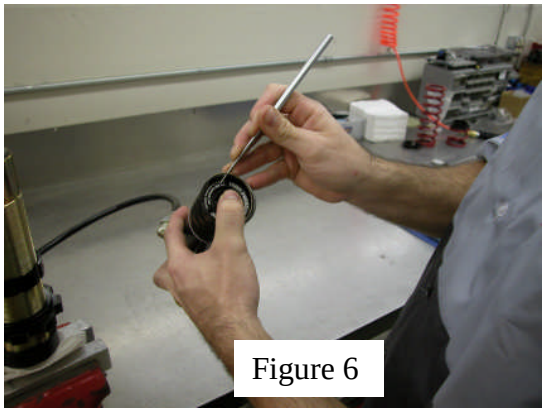


Figure 6

12. Thread reservoir cap extraction tool into reservoir end cap and remove using a twisting motion. Set reservoir cap aside on a clean, lint free paper towel. **(Figure 7)**

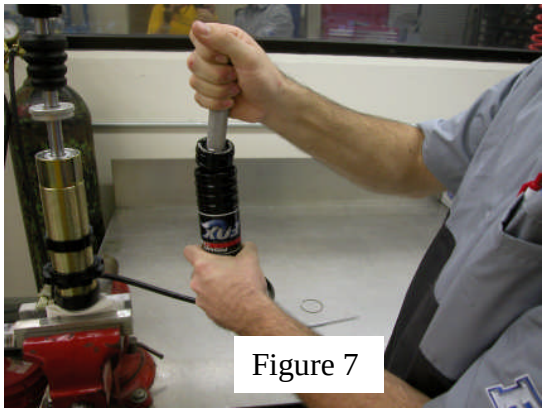


Figure 7

13. Using your fingertips, depress the bearing into the body tube to expose the wire-retaining ring. Locate the end of the ring and push inward with your fingertip. Remove retaining ring. A scribe or dental pick can also be used for this step, but use extreme caution not to scratch the bore of the body tube. **(Figure 8)**

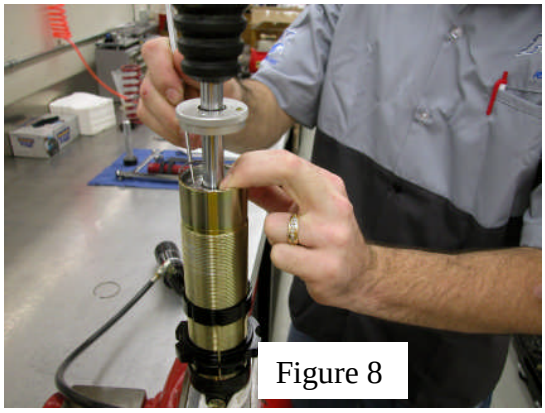


Figure 8

14. Align the slot of the IFP Depth Setting Tool with the end of the IFP (Internal Floating Piston). Insert the IFP Depth Setting tool into reservoir and rotate 90 degrees to engage the IFP. Push the IFP Depth Setting Tool until the IFP bottoms out inside of reservoir. This will cause shaft assembly to be pushed out of the body tube. **(Figure 9)** If this does not happen easily, you will need to pull up on the shaft assembly to remove it from the shock body. Remove the shaft assembly from the body tube, and place on a clean, lint free paper towel.

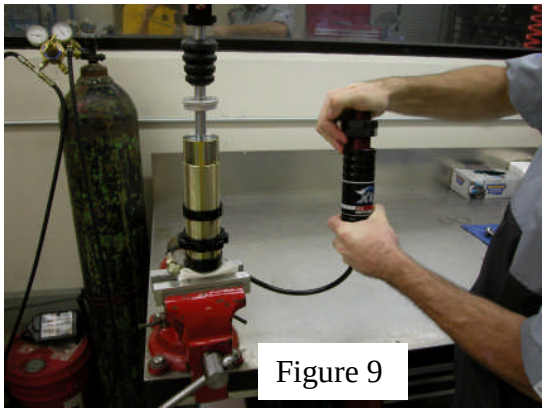


Figure 9

15. Gently pull the IFP out of the reservoir tube using the IFP Depth Setting Tool **(Figure 10)**, and place it on a clean, lint free towel. Remove the shock from the vice and pour shock oil from body and reservoir tubes into a proper disposal container. DO NOT RE-USE OLD SHOCK OIL. Take several sheets of clean, lint free paper towels and stuff them into the body and reservoir tubes. (This is done to prevent residual oil from dripping out of body and reservoir tubes.)

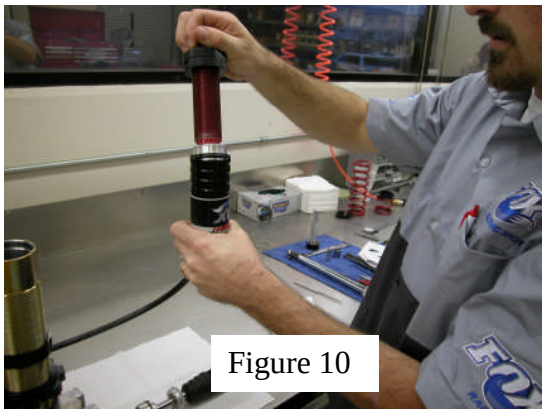


Figure 10

16. Inspect IFP o-ring. If it is worn or damaged, remove using a scribe or dental pick. Use extreme caution not to scratch the o-ring groove. Place the IFP on clean, lint free paper towel.
17. Next, inspect the CD adjuster. Using a T15 torx wrench, remove blue CD knob. **(Figure 11)**

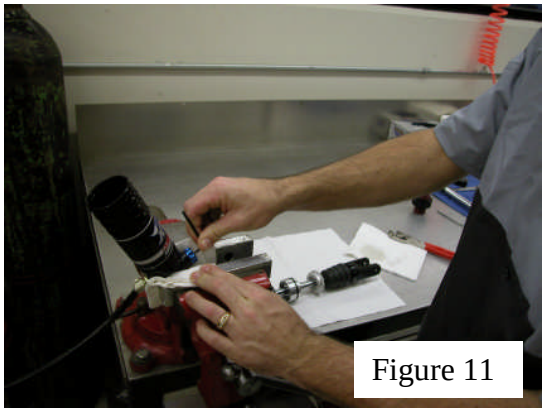


Figure 11

18. Using 5/8" socket, remove CD adjuster from reservoir assembly. **(Figure 12)**

Figure 12

19. Inspect inboard and outboard o-rings for wear. If worn, replace. Be careful, not to scratch CD housing when removing o-rings. **(Figure 13)**

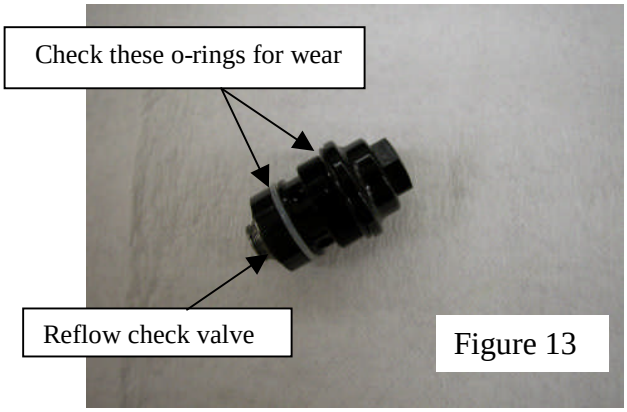


Figure 13

20. Inspect the reflow check valve to ensure that it operates smoothly and that the valve is not bent or deformed.
21. When the components in CD adjuster cartridge are inspected and/or replaced, reinstall into reservoir assembly. Torque to 12 ft-lb
22. Install blue knob back on CD adjuster cartridge. Torque to 22 in-lb.
23. Set body assembly aside on a clean, lint free paper towel.
24. Clamp the shaft eyelet securely in vice with the piston end up.
25. Using a ¾" wrench, remove piston lock nut from end of shaft.
26. Slide only the tip of Phillips Head Screwdriver into hole at end of shaft. Hold the piston assembly under the top-out plate and lift upwards. Slide the piston assembly onto the shaft of the Screwdriver. Remove the Screwdriver from shock shaft while supporting the piston assembly. **(Figure 14)** Slide a 12-inch tie wrap through the entire piston assembly. Secure the two ends of the zip tie together and remove the screwdriver. **(Figure 15)** There are many pieces to the piston assembly, and the assembly order of these pieces is critical to the proper performance of your shock. This step ensures that the proper order is kept. Place piston assembly on a clean, lint free paper towel.

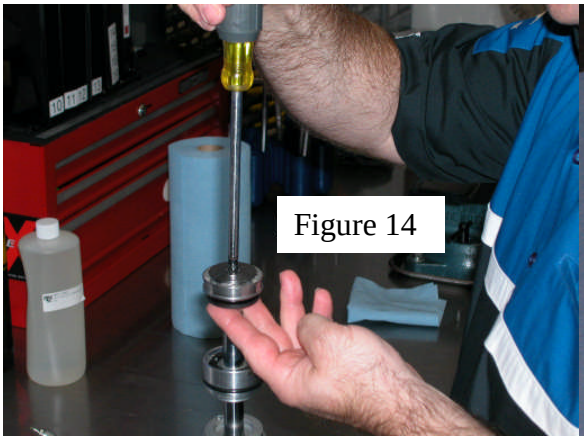


Figure 14

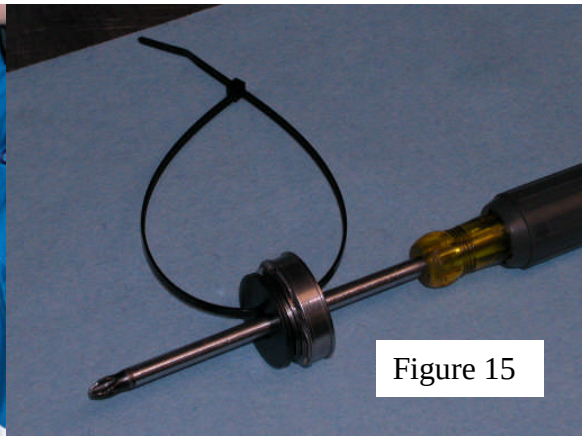


Figure 15

27. Slide bearing assembly off of shaft. Use extreme caution not to scratch inside of the bearing assembly when passing it over the threads at end of shaft. **(Figure 16)**

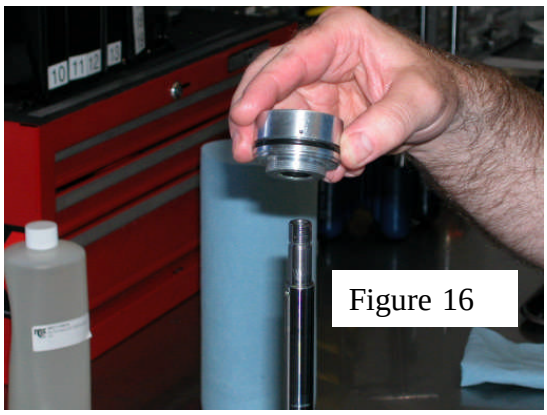


Figure 16

28. Slide the bearing cap and bottom out bumper off of the shaft.
29. Using a small pair of needle nose pliers, grab the lip of the bearing cap dust seal. Use an inward prying motion to remove the seal. **(Figure 17)**

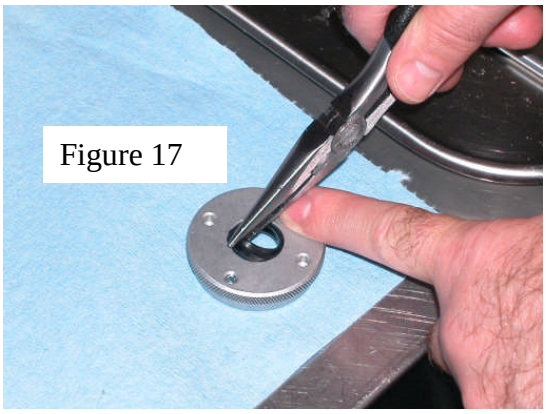


Figure 17

30. Using a small pair of needle nose pliers, grab the lip of the U-cup seal in the bearing assembly. Use an inward prying motion to remove the seal. **(Figure 18)** Use a scribe or a dental pick to remove the o-ring seal from center of the bearing assembly. **(Figure 19)** Use extreme caution when removing seals from bearing assembly. Do not scratch the o-ring groove, or DU bushing. Doing so will compromise the performance of your shock.

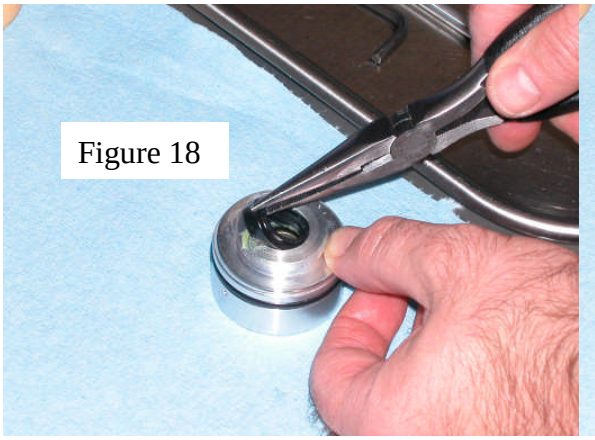


Figure 18

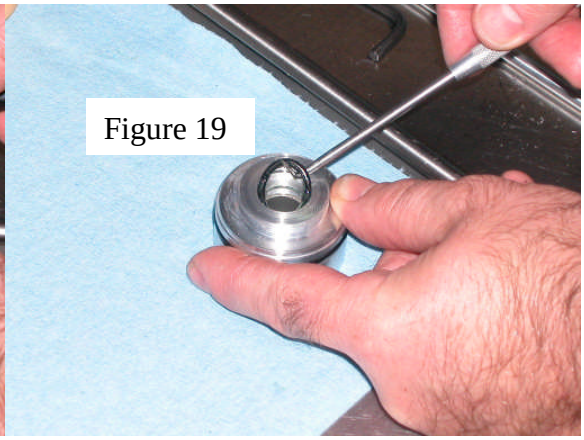


Figure 19

31. Thoroughly clean the bearing, bearing cap, and piston assembly with solvent. Dry with compressed air in a well ventilated area. If compressed air is not available, dry parts using clean, lint free paper towels and let sit in a well ventilated area to allow the remaining solvent to evaporate.
32. Install new dust seal into bearing cap. Seal should be installed with lip protruding from the flat side of the bearing cap. Check to make sure seal is properly seated. If a tool is required to aid in proper seating of seal, use the non-writing end of a pen, or a similar soft, blunt object, to push it in. **(Figure 20)**

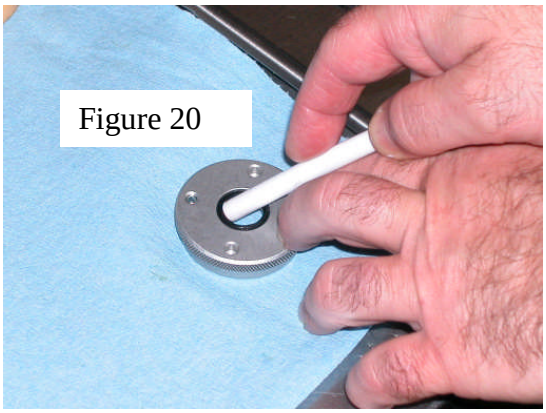
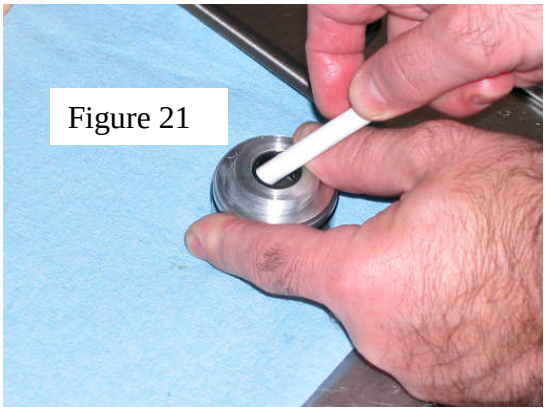
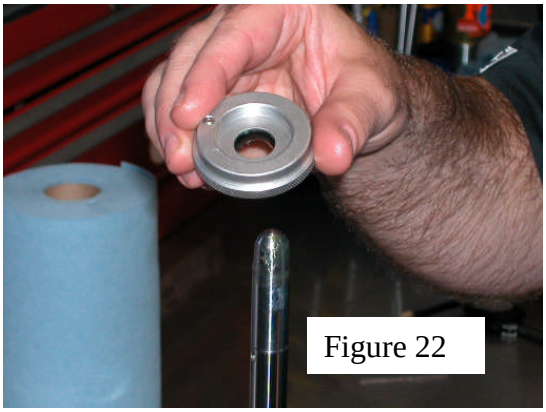


Figure 20

33. Install the new, well lubricated, o-ring into the bearing housing. Correct o-ring placement is in the groove next to the DU bushing. Check to make sure the seal is properly seated, and is not twisted. If a tool is required to aid in proper seating of o-ring, use the non-writing end of a pen, or a similar soft, blunt object, to push it in.
34. Install the new U-cup seal into bearing. U-cup should be installed so the cupped end is facing the DU bushing inside of bearing. Check to make sure seal is properly seated. If a tool is required to aid in proper seating of U-cup seal, use the non-writing end of a pen, or a similar soft, blunt object, to push it in. **(Figure 21)**



35. Clamp shaft eyelet securely in vice, and place seal bullet tool on end of shaft
36. Slide bottom-out bumper onto shaft. The tapered side of the bottom-out bumper should be facing away from the shaft eyelet.
37. Lubricate the seal bullet tool with assembly lube. Slide the bearing cap onto shaft with the threaded side facing away from the shaft eyelet. **(Figure 22)** This should be done in a single smooth motion to avoid damaging the seal. If seal hangs up on the edge of the shaft, DO NOT FORCE IT ON. Remove the bullet tool, with the bearing cap still attached, from the shaft end. Remove the bearing cap from the bullet tool, and repeat this step.



38. Lubricate the bearing assembly seals with an ample amount of assembly lube. Slide the bearing assembly onto shaft with the threaded side facing the bearing cap. **(Figure 23)** This should be done in a single smooth motion to avoid damaging the seals. If a seal hangs up on the edge of the shaft, DO NOT FORCE IT ON. Remove the bullet tool, with the bearing assembly still attached, from the shaft end. **(Figure 24)** Remove the bearing assembly from the bullet tool, and repeat this step.

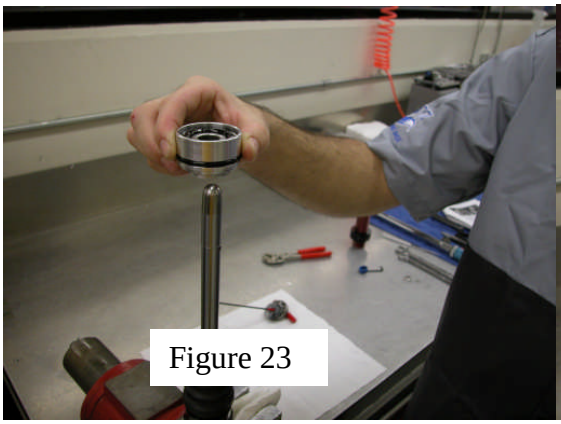


Figure 23

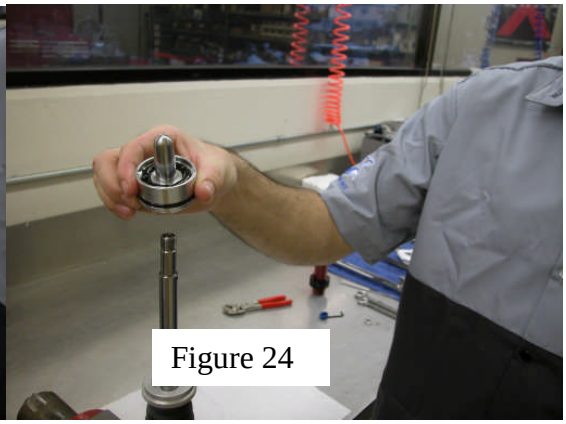


Figure 24

39. Insert the shaft of a phillips head screwdriver through the center of the piston assembly. The pointed end of the screwdriver should be on the same side as the top-out plate (large, black plate). Cut and remove the tie wrap that was holding the piston assembly together.
40. Hold the piston assembly from underneath the top-out plate and insert the end of the screwdriver into the shock shaft. **(Figure 25)** Slide the piston assembly onto the shaft end. Check to make sure ensure the piston assembly is properly seated, and install the piston lock nut. Torque the nut to 25ft/lbs. **(Figure 26)**

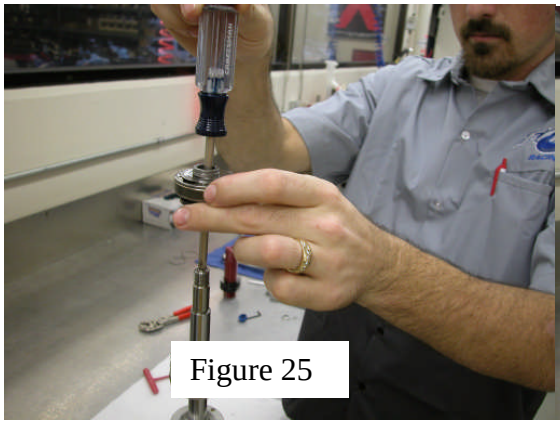


Figure 25

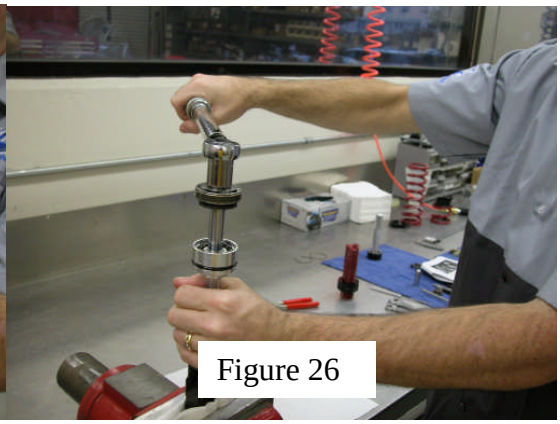


Figure 26

41. Clamp the body cap of the shock securely in the vice, with the open end of the body facing up. Turn compression adjustment knob all the way in or full clockwise (full firm).
42. Lubricate the new IFP o-ring with an ample amount of assembly lube, and install it onto the IFP.
43. Hold the reservoir tube at a level that is below the shock body tube with the open-end facing up. Fill the reservoir to retaining ring groove with Fox 5wt. shock oil (**#803-11-000-A**). You should see bubbles rising to oil surface. Wait until bubbling slows or stops completely. If oil level has fallen, add more oil until level is at retaining ring groove. Insert IFP into reservoir with the bleed screw removed. Use a smooth motion and push straight in until o-ring seats into the retaining ring groove, allowing oil to overflow. Install the IFP bleed screw. Back the compression adjustment knob all the way out. Use your free hand to wrap new piston band around IFP with the rounded edge out, and push the IFP into the reservoir until the edge is flush with the end of the reservoir. **(Figure 27)** Be careful not to pinch the piston band. Now, holding the reservoir below the body tube with the compression adjuster side up, push IFP into reservoir tube until it bottoms out inside. **(Figure 28)** You should see large air bubbles rise to the surface of the oil in the body tube.

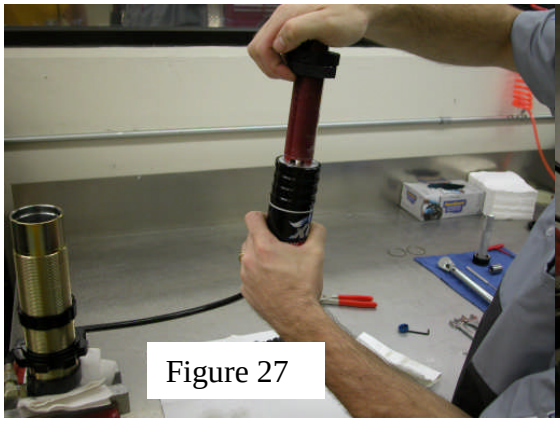


Figure 27

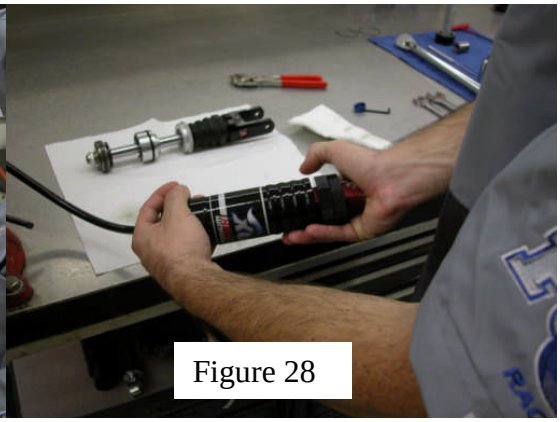


Figure 28

44. Fill shock body half way with oil. While still holding the reservoir below the body tube, very slowly pull back on the IFP. **(Figure 29)** Be careful not to pull the IFP out completely. Stroke the IFP back and forth a few times. You should see bubbles rising to the surface inside the body tube. Repeat this process until you don't see any new bubbles inside the body tube.

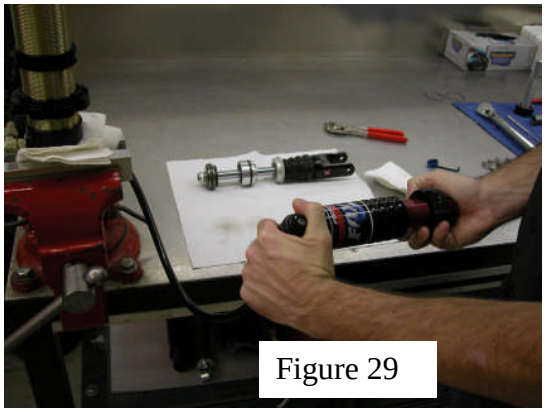


Figure 29

45. Set compression adjuster halfway in. Firmly grip the reservoir housing. With your other hand pull back forcefully on the IFP Depth Setting Tool, until the edge of the IFP is close to being flush with the edge of the reservoir. Stop the IFP in this position. As you pull forcefully on the IFP, you should feel tension as the IFP pulls back. This step is done to open the damp plate circuit and bleed the system. Let the reservoir hang in this position for a minimum of 5 minutes.
46. Hold the reservoir under the body tube with the compression adjuster facing up. Slowly push the IFP into the reservoir until it bottoms out. Set compression adjuster full in.
47. Fill the body tube with oil approximately ½" below the retaining ring groove. Wrap the new piston band around the piston. Insert the shaft assembly into the body tube, allowing oil to overflow. **(Figure 30)** Slowly push shaft into body until piston assembly is approximately 1" below oil surface. Slowly pull shaft assembly out of the body until the rebound ports of the shaft are just below the oil surface. If you pull the shaft out too far you will hear a sucking noise when air is pulled in, and will have to start the bleeding process over. Add oil as necessary. Repeat the previous steps until there are no more bubbles rising to the oil surface.

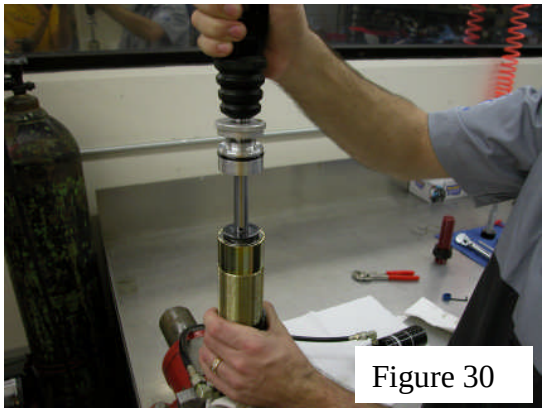


Figure 30

48. Hold the shaft assembly as straight as possible and hit the shaft eyelet a couple of times, squarely from above, with a rubber mallet. **(Figure 31)** This is done to momentarily open the shim stack and allow any trapped air to escape. You should see small bubbles rise to the surface. Fill body tube with oil until oil level is flush with edge of body tube. Slowly pull the shaft out until rebound ports are just below the oil surface. If you pull the shaft out too far you will hear a sucking noise when air is pulled in. If this happens, you will have to start the bleeding process over. Add oil as necessary.

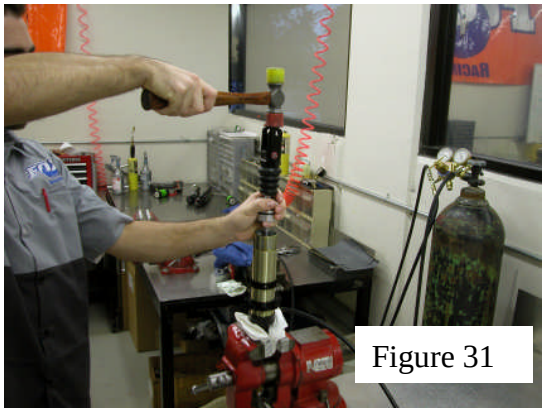


Figure 31

49. Hold the shaft eyelet with one hand. With other hand, slide the bearing assembly down the shaft until contact with oil is made. Find the bleed port in bearing assembly, and position it away from your face and body. With one hand, very slowly push the bearing assembly into body tube. Be sure to have a small container in your other hand to catch the excess oil as it flows out of the bleed port in the bearing. Do not allow the shaft to move as you push the bearing in until the bearing makes contact with the piston assembly. Then push bearing and shaft assembly into body tube until it stops at the external o-ring of the bearing assembly. **(Figure 32)** With one hand continue applying pressure to the bearing assembly. With other hand, set the compression adjustment knob full out. As you do this, the bearing and shaft assembly should push further into the body tube. Push the bearing and shaft assembly into the body tube until the retaining ring groove is exposed. **(Figure 33)** Install the wire-retaining ring, and check to make sure retaining ring is properly seated.

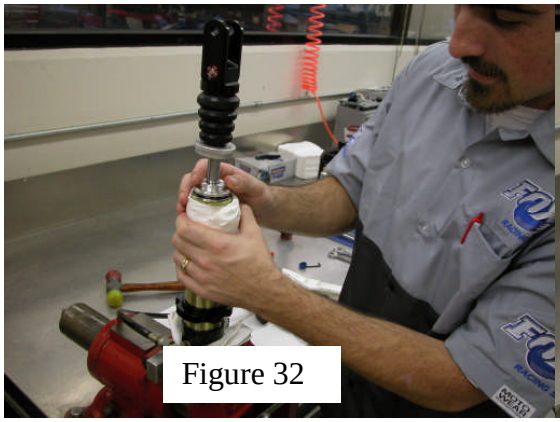


Figure 32

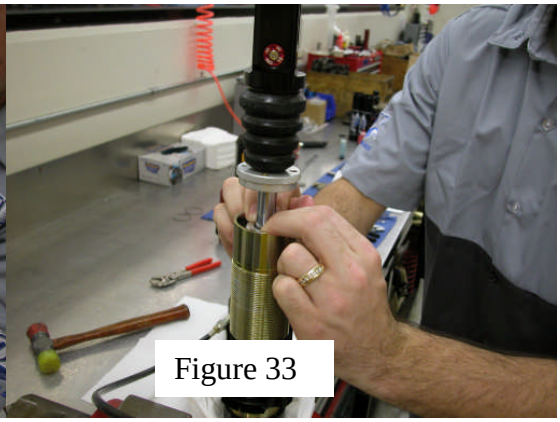


Figure 33

50. Push the IFP further into the reservoir. As you do this, the shaft and bearing assembly should rise until the bearing assembly engages with the wire-retaining ring inside the body tube. Remove the IFP depth setting tool by rotating it 90 degrees.
51. Install the reservoir end cap with the Schrader valve facing the outside of the reservoir tube. **(Figure 34)** Push down on the reservoir end cap using even pressure, until it bottoms. **(Figure 35)** Install the wire-retaining ring, and check to make sure retaining ring is seated properly. Push the shaft assembly completely into the body tube. If reservoir cap is not properly seated against the retaining clip, tap it gently with a rubber mallet until it snaps into place. Remove shock assembly from vice.

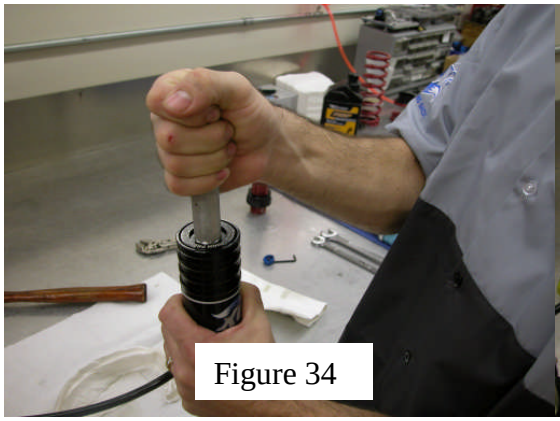


Figure 34

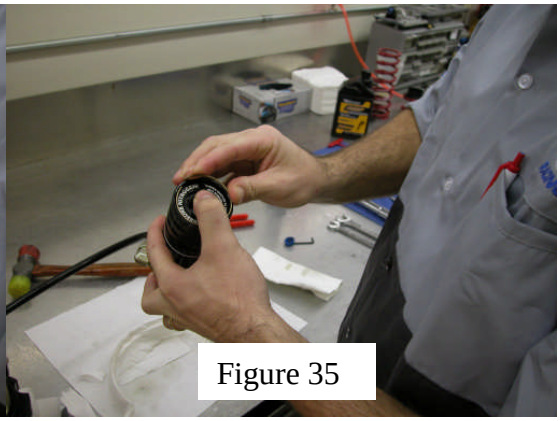


Figure 35

52. Using a Nitrogen regulator system, charge the shock through the reservoir Schrader valve to 200 PSI. **(Figure 36)** CHARGE THE SHOCK USING NITROGEN GAS ONLY. DO NOT FILL WITH ANY OTHER GASSES. Doing so will compromise the performance of your shock and may be EXTREMELY DANGEROUS!

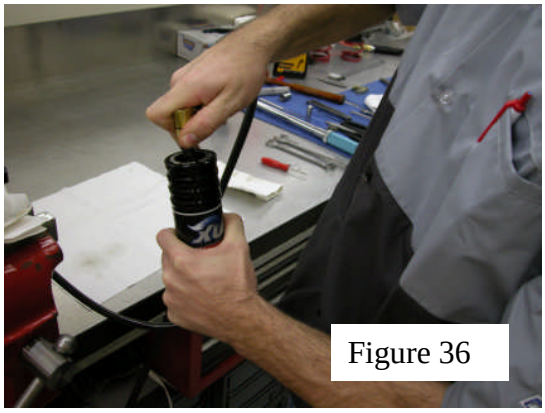


Figure 36

53. Install the mushroom shaped cap on the end of the reservoir. Tighten using pin spanner wrench. **(Figure 37)**

Figure 37

54. Remove the shock from the vice.
55. Clean all oil residue from the shock and reservoir with solvent, and dry with compressed air in a well-ventilated area. If compressed air is not available, dry the shock and reservoir using clean, lint free paper towels and let sit in a well-ventilated area to allow the solvents to evaporate.
56. Clamp the body cap of shock securely in vice, with shaft end up. Use pin-spanner tool to secure the bearing cap to bearing. Using a 3/32" hex key, tighten the setscrew to lock the bearing cap into place. **(Figure 38)**

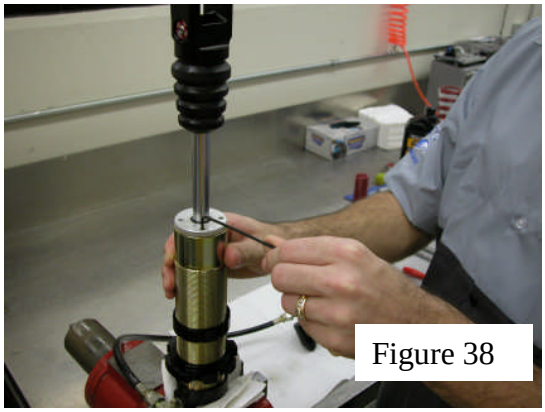


Figure 38

57. Compress shock completely. Roughly 60 pounds of force is required to initiate movement of shaft. If you do not feel resistance to compressing the shock, the reservoir pressure was not set correctly. Once shock is fully compressed, turn rebound adjustment knob clockwise until it stops. Let go of the shaft. The shaft should extend very slowly (or not at all). Turn rebound adjustment knob counter clockwise and set to the position recorded previously. The shaft should speed up as adjuster is opened.

NOTE: Time permitting, we recommend allowing the shock to sit for 24 hours and repeating step #59. This hold period allows you to re-inspect the shock and identify any possible oil leaks or nitrogen loss before the shock is re-installed.

58. Reinstall the stainless steel thrust washers, tender spring, spring coupler, main spring, and spring retainer on shock body.
59. Thread the spring preload ring down against the spring, and set the preload to the measurement you took when you removed the spring. **(Figure 1)** Tighten pinch bolt to lock preload ring in place. Torque to approximately 5 ft-lb.
60. Set the compression and rebound adjusters to the position recorded previously.
61. Remove the shock from the vice.
62. Reinstall spherical bearing o-rings and reducers.

Congratulations…You've completed the servicing of your FOX Racing Shox.

Carefully reinstall the shock on your vehicle.

Be sure to RIDE SLOWLY in the beginning to ensure the shock and your vehicle's suspension is performing correctly.

Thanks again for choosing FOX Racing Shox.

Contact Information

FOX Racing Shox 130 Hangar Way Watsonville, CA 95076	Phone: 800.369.7469 ext. 7647 North America: 800.369.7469 Fax: 831.768.7026
E-mail: info@foxracingshox.com	Website: www.foxracingshox.com
Business Hours: Monday-Friday 8:00AM-5:00PM, Pacific Time	

Service / Warranty

1. Contact FOX Racing Shox at 800.FOX-SHOX (800-369-7469) to obtain a Return Authorization Number (RAN) and shipping instructions.

2. Satisfactory proof of purchase receipt is required for warranty consideration.

3. Mark the Return Authorization Number (RAN) and the Return Address on the outside of the box. Send the shock to FOX Racing Shox with the shipping pre-paid by sender.

4. Include a description of the problem, vehicle information (manufacture, year & model), type of FOX product, spring rate, type of riding, and a return address with daytime phone number.

Warranty Policy:

FOX Racing Shox products are covered by a 1-Year Limited Warranty against defects in materials and/or workmanship. Any modifications to the product will void all warranty. This Warranty will be extended to the original retail consumer of an OEM Customer's FOX Racing Shox equipped vehicle and is valid for one year from the original date of purchase from an OEM Customer's authorized dealer. Warranty is limited to the repair or replacement of the FOX Racing Shox product. FOX Racing Shox reserves the right of final decision with regards to all warranty related issues.

Warranty is void when damage to the shock has occurred from the following:

- Abuse.
- Seal damage due to power washing.
- Damage to the exterior finish caused by debris, rocks, or crashes.
- Any attempts to disassemble shock absorber.
- Modifications.
- Non-factory oil use or improper service
- Shipping damage or loss (purchase of full insurance is recommended).

Methods of Payment

VISA, MasterCard and/or Cashier's Check

Methods of Shipping

FOX Racing Shox uses UPS Ground Service within the USA. Customer may request UPS Air Service at an extra cost. All non-warranty shipping charges are the customer's responsibility.